

United States Patent [19]

Timm

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[54] **PROCESS AND APPARATUS FOR
PREPARING UNIFORM SIZE POLYMER
BEADS**

[75] Inventor: **Edward E. Timm, Coleman, Mich.**

[73] Assignee: **The Dow Chemical Company,
Midland, Mich.**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 283,779, Jul. 16, 1981, abandoned, which is a continuation-in-part of Ser. No. 202,265, Oct. 30, 1980, abandoned.

[51] Int. Cl.³ **C08F 2/56**

[52] U.S. Cl. **526/88; 521/38**

[58] Field of Search **526/88; 521/29, 31,
521/33**

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Primary Examiner—Paul R. Michl

[57] ABSTRACT

Spheroidal polymer beads having a uniform size are prepared by polymerizing uniformly sized monomer droplets formed by the vibratory excitation of a laminar jet of monomeric material flowing in a continuous liquid medium containing a suitable suspending agent. For example, a laminar jet of a monomer mixture comprising a monovinyldene aromatic such as styrene, a polyvinylidene aromatic such as divinylbenzene and a polymerization initiator can be subjected to vibratory excitation and the resulting monomer droplets polymerized to yield copolymer beads having a narrow particle size range distribution. The resulting copolymer beads can be employed to prepare high yields of ion exchange resins exhibiting superior properties, particularly in continuous ion exchange operations.

34 Claims, 3 Drawing Figures